Version No.			

ROLL NUMBER						

Answer Sheet No._____

Sign. of Candidate _____

Sign. of Invigilator _____

Cardiovascular Technology HSSC–I

SECTION – A (Marks 20)

Time allowed: 25 Minutes

Section – A is compulsory and comprises pages 1-2. All parts of this section are to be answered on the question papers itself. It should be completed in the first 25 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. **Do not use lead pencil.**

Q.1 Circle the correct option i.e. A / B / C / D. Each part carries one mark.

(1) What view of the heart does leads II, III, AVF represents.

A) Anterior ◯ B) Lateral ◯

C) posterior ◯ D) Inferior ◯

(2) The Hearts dominant pacemaker is

A) AV node ◯ B) SA node ◯

C) His bundle ◯ D) Bundle branches ◯

(3) If there were 5 large boxes between R-R interval (One QRS -another QRS), what would be the heart rate:

A) 60 ◯ B) 40 ◯

C) 50 ◯ D) 75 ◯

(4) The duration of diastolic phase of cardiac cycle is

A) 0.5 Sec ◯ B) 0.3 sec ◯

C) 0.8 sec ◯ D) 0.1 sec ◯

(5) P wave represents/ shows

A) Ventricular depolarization ◯ B) Atrial depolarization ◯

C) Ventricular repolarization ◯ D) None of these ◯

(6) A particular ECG change observed in Hypokalemia is

A) ST-segment elevation ◯ B) U wave, ◯

C) peaked T waves ◯ D) Short QT ◯

(7) A particular ECG changes observed in Hypercalcemia is :

A) Short QT ◯ B) Long QT ◯

C) U wave ◯ D) peaked / Tall T wave ◯

(8) QRS complex's normal duration is

A) 0.04 seconds (1 small square) ◯ B) 0.08 seconds (2 small squares) ◯

C) 0.16 seconds (4 small squares) ◯ D) <0.12 seconds (3 small squares) ◯

(9) Ventricular repolarization is represented by:

A) QRS complex ◯ B) T wave ◯

C) P wave ◯ D) PR interval ◯

(10) The classic ECG changes in patient with myocardial infarction is:

A) T wave inversion ◯ B) ST segment elevation ◯

C) Pathological Q wave ◯ D) peaked T wave ◯

(11) Heart attack occurs when there is blood clot in

A) Bracial Artery ◯ B) mesenteric Artery ◯

C) Coronary Artery ◯ D) Renal Artery ◯

(12) A patient is complaining of chest pain. you obtain a 12 lead ECG and see ST elevation in leads I, AVL, what area of the heart does this represents

A) Anterior ◯ B) Lateral. ◯

C) posterior ◯ D) inferior ◯

(13) The auscultatory method of BP measurement uses the sense of;

A) Touch ◯ B) Hearing. ◯

C) Vision ◯ D) None of these ◯

(14) The impulses generated from the SA node is called

A) Arrhythmias ◯ B) sinus rhythm. ◯

C) Escape rhythm ◯ D) None of these ◯

(15) The outer protective covering of the heart is called

A) Myocardium ◯ B) pericardium ◯

C) Endocardium ◯ D) None of these ◯

(16) In left bundle branch block,

A) The left ventricular depolarization is delayed ◯

B) The right ventricular depolarization is delayed ◯

C) Bundle branch block has no relation with depolarization ◯

D) None of these ◯

(17) Right bundle branch block produces R,R' in leads

A) V5, V6. ◯ B) V1, V2 ◯

C) V3, V4 ◯ D) Node of these ◯

(18) From SVC and IVC the blood enters in

A) Right Atrium ◯ B) Left Ventricle ◯

C) Aorta ◯ D) Left Atrium ◯

(19) PR interval more than 0.2 seconds indicates

A) First degree AV block ◯ B) Second degree AV block ◯

C) Third degree AV block ◯ D) Left ventricular hypertrophy ◯

(20) The classic ECG changes observed in the patients with ischemia is?

A) ST elevation ◯ B) T wave inversion ◯

C) Pathological Q waves ◯ D) Wide QRS complex ◯

Federal Board HSSC-I Examination

Cardiovascular Technology

Time allowed: 2:35 hours Total Marks Section B and C: 80

Note: Answer any twenty five parts from Section 'B' and attempt any three questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 50)

Q.2 Attempt any **TWENTY FIVE** parts from the following. All parts carry equal marks. Be brief and to the point. (25 × 2 = 50)

1. What is the role of potassium (k+) and sodium ions (Na+) ions.
2. What down the names and position of chest Electrodes.
3. What is the difference between auscultatory, and palpatory method of blood pressure measurement.
4. What are the indications of Tilt table test.
5. What is korotkoff sound ?
6. What is Atrial fibrillation
7. Differentiate between bradycardia and tachycardia
8. Differentiate between anterior MI and inferior MI .
9. Differentiate between Hypercalcemia and Hypocalcemia.
10. What is ejection fraction (EF) ?
11. Differentiate between pericardium and Endocardium.
12. What is cardiac cycle?
13. What is cardiac output? What are the factors that affect cardiac output .
14. Differentiate between Right and left atrial hypertrophy.
15. Write the names of the components of conduction system of heart
16. Write the ECG criteria (identification) of Myocardial infarction (MI)
17. Define ischemia and also write it's ECG Criteria
18. How lub and dub sound is produced
19. What is First degree AV block
20. Write the location of wenckeback(type -1) and mobitz(Type -2)
21. How heart rate affect cardiac output
22. Write the names of the factors which affect cardiac output
23. Differentiate between systole and diastole
24. Define Stroke volume
25. How can you determine (calculate) pulse pressure
26. Draw Einthoven Triangle
27. What does the p wave and T wave represents
28. What is the function of AV (Atrioventricular) valves
29. Write the function of SA node

30. Write down the names of events of cardiac cycle
31. What are the indications of Tilt table test
32. Define mean arterial Blood pressure
33. Define Preload
34. Differentiate between Right and left axis deviation
35. What is Right ventricular Hypertrophy

SECTION – C (Marks 30)

Note: Attempt any **THREE** questions. All questions carry equal marks. (3×10 = 30)

Q.3 Briefly explain Right and left bundle branch block

Q.4 What is Hypertrophy? Differentiate between Right ventricular hypertrophy and Left ventricular hypertrophy.

Q.5 Explain Myocardial infarction.
(causes , Symptoms, different types)

Q.6 Write a note on circulatory system of the heart and also Draw it's diagram.

Q.7 Briefly Explain Ambulatory ECG/ Holter monitor.

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